



# Multibond<sup>®</sup> EZ-1 HV

Wood Adhesives

## PRODUCT DESCRIPTION

**Multibond EZ-1 HV** is a high viscosity version of the Multibond EZ-1 wood adhesive. It is a shelf stable, one component (pre-catalyzed) crosslinking polyvinyl acetate emulsion that is recommended for high frequency and hot or cold press, edge and face gluing and finger joint applications. With its very fast setting rate, viscosity stability and high percent solids, Multibond EZ-1 HV can also be used for a variety of assembly gluing applications. It meets Watt 91 and develops a DIN EN 204 D3 and an ANSI/HPMA 1994 Type II water-resistant bond with a light-colored glue line.

## PHYSICAL PROPERTIES

**Chemical Family Description:** crosslinking polyvinyl acetate emulsion adhesive

**Appearance:** Cream colored liquid

**Specific Gravity:** 1.09

**Weight Solids (%):** 46-49

**Typical Viscosity (cps):** 9,500 - 11,500

**Suggested Minimum Use Temperature:** 15°C

**pH:** 2.0-3.3

**Freeze/Thaw Stable:** Yes

## APPLICATION GUIDELINES

**Moisture Content:** Six to eight percent is the recommended moisture content for the gluing stock. High moisture content will dramatically increase the clamp time needed. Additionally, panel shrinkage may occur resulting in stress cracks or end joint delamination.

**Stock Preparation:** The preparation of the stock to be glued is extremely important. Joints cut from rip saws should be free of saw marks. They should also be straight and square. Moulded or jointed stock should be free of knife marks. Glazed or burnished joints will prevent adhesive penetration and should be guarded against. When possible, glue joints should be prepared and glued the same day.

**Tolerances:** Gluing stock should be uniform in thickness. Variation in thickness should not exceed  $\pm 0.15$  mm. Sanding to thickness should be performed using higher than 50 grit abrasives. Bowing of staves used in edge gluing should be kept to a minimum, typically less than 1.5 mm end to end.

**Spread:** Generally, 200-245 g/m<sup>2</sup> of glue line is adequate. Conveyorized spreaders are commonly used in edge-gluing applications. The use of a wool felt sleeve on the spreader roll can aid in obtaining a desirable spread and reducing excess glue usage.

**Assembly Time:** Assembly time can vary greatly depending on the adhesive used, glue spread, porosity and moisture content of stock, environmental conditions, etc. A small bead of adhesive squeeze-out around the perimeter of the panel when cold or hot pressing is desirable. A small bead of squeeze-out on the ends of edge-glued panels is desirable. Generally accepted assembly time is 5-10 minutes.

**Pressure:** Pressure is dependent upon the species or material to be glued and joint preparation. Direct contact of the gluing surfaces must be made to obtain maximum strength. Suggested pressures for various wood densities are: low 7.0-10.5 Kg/cm<sup>2</sup>; medium 8.8-12.3 Kg/cm<sup>2</sup>; high 12.3-17.6 Kg/cm<sup>2</sup>. Clamps for edge gluing should be spaced 20-40 cm apart and 5 cm from the end of the panel to evenly distribute pressure along the entire length of the glue line.

**Press Time:** Press time is dependent on the adhesive used, gluing stock type, moisture content of the stock and environmental conditions. Typical press times range from 30 minutes to two hours. Press times should be determined under plant conditions. The speed of set indicator on Franklin Product Data Sheets is the best starting point for determining the time that should be allowed for pressing/clamping and assembly. As a general rule of thumb, the higher the number, the shorter the press/clamp and assembly time should be. The lower the number, the longer the press/clamp and assembly time can be.



**Post Press Conditioning:** After a minimum clamping period, the panel will develop enough handling strength to permit it to be removed from the press. An overnight cure is recommended prior to machining. A storage period of 3-4 days may be required to eliminate sunken joints caused by residual moisture in the glue line.

**Clean up:** to easily remove Franklin adhesive from your equipment while it is still wet, use water. Warm water will soften dried glue; however steam will soften it more rapidly. Cleaning clamps, jigs, press platens and fixtures is much easier if equipment is regularly coated with a glue release agent, wax or soap before using it. These release agents prevent the adhesive from sticking to the equipment and will help dried glue to flake or chip off quickly and easily.

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## PERFORMANCE PROPERTIES

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**Meets or exceeds the following industry standards:**

- ANSI/HPMA 1994 Type II water resistance
- NWWDA Type I and Type II water resistance
- European Standard DIN EN 204 D3 (formerly DIN 68602 B3)
- European E-1 formaldehyde emission standard
- ASTM D5572 dry use
- Watt 91

Block Shear Strength:	lb/in <sup>2</sup>	wood failure%
25°C	3,700	75
65°C Overnight	1,800	05

**Room Temperature Speed of Set:** 1.25 (Very Fast)

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## RELATED PRODUCTS

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Multibond EZ-1 HV is designed for use in general assembly applications including edge-gluing in cold press, hot press and radio frequency. Multibond EZ-2 HV is similar to Multibond EZ-1 HV. However, Multibond EZ-2 HV may be used under colder plant conditions where ambient curing is used. Multibond EZ-1 and EZ-2 are similar products with lower viscosity. Lower viscosity adhesives may yield thinner, less visible glue lines in applications with large joint surface areas and those where it is difficult to apply the recommended clamping pressure.

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## STORAGE AND HANDLING

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Store in tightly closed original container. Protect from freezing. Storing at temperatures above 25°C will reduce the maximum storage time. If thickening, separation or settling occurs, the adhesive should be thoroughly mixed and will then be ready to use again.

**Note:**

Discoloration and checking of wood veneer products occurs occasionally. These occurrences are infrequent and range in appearance, color and may vary with the species of the veneer. Discoloration and checking may appear during or after the manufacturing process. Among other things, environmental conditions in some manufacturing plants and end-use locations can contribute to checking. If veneer discoloration or checking occurs, our representatives are prepared to visit and assist you in attempting to identify the causes and possible solutions. Because such discoloration and checking are attributable to conditions beyond our control, Franklin International can assume no responsibility or liability for any problems that might occur.

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